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☐ 1. Document ID: US 20020115567 A1 WO 200206251 A1 DE 10035038 A1 AU 200169116 A

L1: Entry 1 of 1

File: DWPI

Aug 22, 2002

DERWENT-ACC-NO: 2002-195793

DERWENT-WEEK: 200258

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TITLE: New 2-aralkylamino-1,3,5-triazine derivatives, useful as plant growth regulators or pre- or post-emergence herbicides, especially as selective herbicides in crops such as rice

INVENTOR: AULER, T; BIERINGER, H ; GIENCKE, W ; MENNE, H ; WILLMS, L

PRIORITY-DATA: 2000DE-1035038 (July 19, 2000)

## PATENT-FAMILY:

| PUB-NO            | PUB-DATE         | LANGUAGE | PAGES | MAIN-IPC   |
|-------------------|------------------|----------|-------|------------|
| US 20020115567 A1 | August 22, 2002  |          | 000   | A01N043/66 |
| WO 200206251 A1   | January 24, 2002 | G        | 140   | C07D251/18 |
| DE 10035038 A1    | January 31, 2002 |          | 000   | C07D251/18 |
| AU 200169116 A    | January 30, 2002 |          | 000   | C07D251/18 |

INT-CL (IPC): A01 N 43/66; A01 N 43/68; A01 N 43/70; C07 D 251/18; C07 D 251/40; C07 D 403/12; C07 D 405/12; C07 D 413/12; C07 D 417/12

| Full | Title | CIT.1 | REV.1 | CLS.1 | REF.1 | SEQ.1 | ATT.1 |
|------|-------|-------|-------|-------|-------|-------|-------|
| ■    | ■     | ■     | ■     | ■     | ■     | ■     | ■     |
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US20020115567A1

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**WEST****End of Result Set**

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L3: Entry 1 of 1

File: PGPB

Aug 2, 2001

PGPUB-DOCUMENT-NUMBER: 20010011063  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20010011063 A1

TITLE: Substituted 2,4-diamino-1,3,5-triazines, processes for their preparation and their use as herbicides and plant growth regulators

PUBLICATION-DATE: August 2, 2001

## INVENTOR-INFORMATION:

| NAME                  | CITY      | STATE | COUNTRY | RULE-47 |
|-----------------------|-----------|-------|---------|---------|
| Giencke, Wolfgang     | Hofheim   |       | DE      |         |
| Willms, Lothar        | Hofheim   |       | DE      |         |
| Auler, Thomas         | Bad Soden |       | DE      |         |
| Bieringer, Hermann    | Eppstein  |       | DE      |         |
| Rosinger, Christopher | Hofheim   |       | DE      |         |

APPL-NO: 09/ 735851 [PALM]  
DATE FILED: December 13, 2000

## FOREIGN-APPL-PRIORITY-DATA:

| COUNTRY | APPL-NO      | DOC-ID              | APPL-DATE         |
|---------|--------------|---------------------|-------------------|
| DE      | 199 60 683.8 | 1999DE-199 60 683.8 | December 15, 1999 |

INT-CL: [07] A01 N 43/66

US-CL-PUBLISHED: 504/231; 544/212

US-CL-CURRENT: 504/231; 544/212

## ABSTRACT:

Compounds of the formula (I) and salts thereof in optically active form, 1  
in which

R.sup.1, R.sup.2, R.sup.3, R.sup.4, A, X and n are as defined in claim 1, are suitable for use as herbicides and plant growth regulators. The compounds (I) can be prepared by processes according to claim 7 via intermediates, some of which are novel, for example of the formulae (III) and (V).

**WEST****End of Result Set**

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L1: Entry 1 of 1

File: DWPI

Jun 26, 2002

DERWENT-ACC-NO: 2000-098914

DERWENT-WEEK: 200251

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TITLE: New triazine derivatives useful as selective herbicides and plant growth regulators

INVENTOR: AULER, T; BIERINGER, H ; GIENCKE, W ; MINN, K ; ROSINGER, C ; WILLMS, L

PATENT-ASSIGNEE: HOECHST-SCHERING AGREVO GMBH (AGRE), AVENTIS CROPSCIENCE GMBH (AVET), AULER T (AULEI), BIERINGER H (BIERI), GIENCKE W (GIENI), MINN K (MINNI), ROSINGER C (ROSII), WILLMS L (WILLI)

PRIORITY-DATA: 1998DE-1026670 (June 16, 1998)

## PATENT-FAMILY:

| PUB-NO            | PUB-DATE          | LANGUAGE | PAGES | MAIN-IPC   |
|-------------------|-------------------|----------|-------|------------|
| ZA 200007209 A    | June 26, 2002     |          | 113   | A01N000/00 |
| DE 19925329 A1    | December 23, 1999 |          | 051   | C07D251/18 |
| WO 9965882 A1     | December 23, 1999 | G        | 000   | C07D251/18 |
| AU 9945047 A      | January 5, 2000   |          | 000   | C07D251/18 |
| CZ 200004666 A3   | March 14, 2001    |          | 000   | C07D251/18 |
| BR 9911350 A      | March 13, 2001    |          | 000   | C07D251/18 |
| EP 1087948 A1     | April 4, 2001     | G        | 000   | C07D251/18 |
| SK 200001935 A3   | June 11, 2001     |          | 000   | C07D251/18 |
| KR 2001052880 A   | June 25, 2001     |          | 000   | C07D251/18 |
| HU 200102663 A2   | November 28, 2001 |          | 000   | C07D251/18 |
| JP 2002518378 W   | June 25, 2002     |          | 133   | C07D251/18 |
| US 20020091260 A1 | July 11, 2002     |          | 000   | C07D251/54 |

DESIGNATED-STATES: AE AL AM AU AZ BA BB BG BR BY CA CN CU CZ EE GD GE HR HU ID IL IN  
IS JP KG KP KR KZ LC LK LR LT LV MD MG MK MN MX NO NZ PL RO RU SG SI SK SL TJ TM TR  
TT UA UZ VN YU ZA AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL  
OA PT SD SE SL SZ UG ZW AT BE CH DE DK ES FI FR GB GR IE IT LI NL PT RO SE

## APPLICATION-DATA:

| PUB-NO                 | APPL-DATE         | APPL-NO        | DESCRIPTOR |
|------------------------|-------------------|----------------|------------|
| ZA 200007209A          | December 6, 2000  | 2000ZA-0007209 |            |
| DE 19925329A1          | June 2, 1999      | 1999DE-1025329 |            |
| WO 9965882A1           | June 2, 1999      | 1999WO-EP03817 |            |
| AU 9945047A            | June 2, 1999      | 1999AU-0045047 |            |
| AU 9945047A            |                   | WO 9965882     | Based on   |
| CZ 200004666A3         | June 2, 1999      | 1999WO-EP03817 |            |
| CZ 200004666A3         | June 2, 1999      | 2000CZ-0004666 |            |
| CZ 200004666A3         |                   | WO 9965882     | Based on   |
| BR 9911350A            | June 2, 1999      | 1999BR-0011350 |            |
| BR 9911350A            | June 2, 1999      | 1999WO-EP03817 |            |
| BR 9911350A            |                   | WO 9965882     | Based on   |
| EP 1087948A1           | June 2, 1999      | 1999EP-0927843 |            |
| EP 1087948A1           | June 2, 1999      | 1999WO-EP03817 |            |
| EP 1087948A1           |                   | WO 9965882     | Based on   |
| SK 200001935A3         | June 2, 1999      | 1999WO-EP03817 |            |
| SK 200001935A3         | June 2, 1999      | 2000SK-0001935 |            |
| SK 200001935A3         |                   | WO 9965882     | Based on   |
| KR2001052880A          | December 15, 2000 | 2000KR-0714219 |            |
| HU 200102663A2         | June 2, 1999      | 1999WO-EP03817 |            |
| HU 200102663A2         | June 2, 1999      | 2001HU-0002663 |            |
| HU 200102663A2         |                   | WO 9965882     | Based on   |
| JP2002518378W          | June 2, 1999      | 1999WO-EP03817 |            |
| JP2002518378W          | June 2, 1999      | 2000JP-0554708 |            |
| JP2002518378W          |                   | WO 9965882     | Based on   |
| <u>US20020091260A1</u> | June 14, 1999     | 1999US-0332222 | Cont of    |
| <u>US20020091260A1</u> | December 18, 2001 | 2001US-0024425 |            |

INT-CL (IPC): A01 N 0/00; A01 N 43/66; A01 N 43/68; C07 C 211/27; C07 C 279/26; C07 D 251/18; C07 D 251/22; C07 D 251/44; C07 D 251/48; C07 D 251/54; C07 D 403/12; C07 D 405/12; C07 D 405/14; C07 D 407/12; C07 D 413/12; C07 D 417/12

ABSTRACTED-PUB-NO: DE 19925329A  
BASIC-ABSTRACT:

NOVELTY - 2-Amino-1,3,5-triazine derivatives (I) are new.

DETAILED DESCRIPTION - 2-Amino-1,3,5-triazine derivatives of formula (I) and their salts are new:

R1 = optionally substituted aryl, 3-9C cycloalkyl or heterocyclyl; or 1-6C alkyl, 2-6C alkenyl or 2-6C alkynyl optionally substituted by halogen, OH, CN, NO2, SCN, 1-4C alkoxy, 1-4C haloalkoxy, 2-4C alkenyloxy, 2-4C haloalkenyloxy, 1-4C alkylthio, 1-4C alkylsulfinyl, 1-4C alkylsulfonyl, 1-4C haloalkylsulfinyl, 1-4C haloalkylsulfonyl, optionally substituted 3-9C cycloalkyl, optionally substituted phenyl, optionally substituted heterocyclyl, C(Z')R', ZC(Z')R', C(Z')ZR', C(Z')NR'R, OC(Z')ZR', ZC(Z')NR'R, N(R)C(Z')ZR' and/or N(R')C(Z')NR'R;

R', R, R' = optionally substituted 1-6C alkyl, aryl, aryl(1-6C)alkyl, 3-9C cycloalkyl or (3-9C)cycloalkyl(1-6C)alkyl;

Z, Z' = O or S;

R2 = optionally substituted 3-9C cycloalkyl, 4-9C cycloalkenyl, heterocyclyl or phenyl;

R3 = H; optionally substituted 1-6C alkyl, aryl or 3-9C cycloalkyl; or N(B1D1)(B2D2)

or N(R)N(B1D1) (B2D2);

R = H, 1-6C alkyl or 2-5C alkanoyl;

R4 = B3D3;

A1 = linear 1-5C alkylene, 2-5C alkenylene or 2-5C alkynylene optionally substituted by halogen, NO2, CN, SCN and/or B4D4;

A2 = a bond; linear 1-4C alkylene, 2-5C alkenylene or 2-5C alkynylene optionally substituted by halogen, NO2, CN, SCN and/or B5D5; or CR6R7-W asterisk -CR8R9, CR10R11-W asterisk -CR12R13-CR14R15, CR16R17-CR18R19-W asterisk -CR20R21, CR22R23-CR24R25-W asterisk or CR26R27-W asterisk ;

R6-R27 = H, halogen, NO2, CN, SCN or B6D6

W asterisk = O, S or N(B7D7);

B1, B2, B3, B7 = bonds, C(Z asterisk ), C(Z asterisk )Z asterisk asterisk , C(Z asterisk )NH or C(Z asterisk )NR asterisk ;

Z asterisk , Z asterisk asterisk = O or S;

R asterisk = optionally substituted 1-6C alkyl, aryl, aryl(1-6C)alkyl, 3-9C cycloalkyl or (3-9C)cycloalkyl(1-6C)alkyl;

B4, B5, B6 = bonds, O, SOp, SOpO, OSOp, CO, OCO, COO, SCO, COS, SCS, CSS, OCOO, NR0, ONR0, NR0O, NR0CO, CONR0, OCONR0 or NR0COO;

p = 0-2;

R0 = H or optionally substituted 1-6C alkyl, aryl, aryl(1-6C)alkyl, 3-9C cycloalkyl or (3-9C)cycloalkyl(1-6C)alkyl;

D1-D4, D6 = H or optionally substituted 1-6C alkyl, aryl, aryl(1-6C)alkyl, 3-9C cycloalkyl or (3-9C)cycloalkyl(1-6C)alkyl;

D5 = H or optionally substituted 1-6C alkyl, aryl, aryl(1-6C)alkyl, 3-9C cycloalkyl or (3-9C)cycloalkyl(1-6C)alkyl, or D5+D5 = 2-4C alkylene optionally substituted by 1-4C alkyl and/or 1-4C alkoxy;

X = halogen, OH, NH2, NO2, CHO, COOH, CN, SCN OR CONH2; optionally substituted 1-6C alkyl, 1-6C alkoxy, 1-6C alkylthio, mono- or di(1-6C alkyl)amino, 2-6C alkenyl, 2-6C alkynyl, 2-7C alkanoyl, 2-7C alkoxycarbonyl, mono- or di(1-6C alkyl)carbamoyl, 1-6C alkanoylamino or N-(1-6C alkanoyl)-N-(1-4C alkyl)amino; or optionally substituted 3-9C cycloalkyl, 3-9C cycloalkoxy, 3-9C cycloalkylamino, phenyl, phenoxy, phenylthio, benzoyl, heterocyclyl, heterocycllyoxy, heterocycllythio or heterocycllylamino; or adjacent X+X forms a 4- to 6-membered fused ring that optionally contains O, S and/or N atoms and is optionally substituted by halogen, 1-4C alkyl or oxo; n = 0-5;

heterocyclyl = a 3- to 7-membered ring containing 1-3 heteroatoms selected from N, O and S;

A1 and A2R2 contain a total of at least 6 C atoms or A1 and A2R2 contain a total of 5 C atoms and A1 = CH2 or CH2CH2 and R1 = optionally substituted 1-4C alkyl, 1-4C haloalkyl, 2-6C haloalkenyl or 3-9C cycloalkyl.

INDEPENDENT CLAIMS are also included for the following: (1) a process for preparing compounds (I); (2) intermediates of formula (III) and (V):

ACTIVITY - Herbicidal; plant growth regulatory. 2-Amino-4-isopropyl-6-(3-p-phenyl-1-cyclobutylpropylamino)-1,3,5-triazine had very good pre-emergence activity against *Stellaria media*, *Lolium multiflorum*, *Amaranthus retroflexus*, *Sinapis alba*, *Avena sativa* and *Setaria viridis* at application rates of 1 kg/ha or less.

MECHANISM OF ACTION - None given.

USE - (I) are herbicides and plant growth regulators, especially useful for selective pre- and post-emergence control of dicot and monocot weeds in dicot crops, e.g. soya, cotton, oilseed rape, sugar beet and potatoes, and in some cases in monocot crops, e.g. barley, wheat, rye, sorghum, maize or rice.

ABSTRACTED-PUB-NO: US20020091260A  
EQUIVALENT-ABSTRACTS:

NOVELTY - 2-Amino-1,3,5-triazine derivatives (I) are new.

DETAILED DESCRIPTION - 2-Amino-1,3,5-triazine derivatives of formula (I) and their salts are new:

R1 = optionally substituted aryl, 3-9C cycloalkyl or heterocyclyl; or 1-6C alkyl, 2-6C alkenyl or 2-6C alkynyl optionally substituted by halogen, OH, CN, NO2, SCN, 1-4C alkoxy, 1-4C haloalkoxy, 2-4C alkenyloxy, 2-4C haloalkenyloxy, 1-4C alkylthio, 1-4C alkylsulfinyl, 1-4C alkylsulfonyl, 1-4C haloalkylsulfinyl, 1-4C haloalkylsulfonyl, optionally substituted 3-9C cycloalkyl, optionally substituted phenyl, optionally substituted heterocyclyl, C(Z')R', ZC(Z')R', C(Z')ZR', C(Z')NR'R, OC(Z')ZR', ZC(Z')NR'R, N(R)C(Z')ZR' and/or N(R')C(Z')NR'R;

R', R, R' = optionally substituted 1-6C alkyl, aryl, aryl(1-6C)alkyl, 3-9C cycloalkyl or (3-9C)cycloalkyl(1-6C)alkyl;

Z, Z' = O or S;

R2 = optionally substituted 3-9C cycloalkyl, 4-9C cycloalkenyl, heterocyclyl or phenyl;

R3 = H; optionally substituted 1-6C alkyl, aryl or 3-9C cycloalkyl; or N(B1D1)(B2D2) or N(R)N(B1D1)(B2D2);

R = H, 1-6C alkyl or 2-5C alkanoyl;

R4 = B3D3;

A1 = linear 1-5C alkylene, 2-5C alkenylene or 2-5C alkynylene optionally substituted by halogen, NO2, CN, SCN and/or B4D4;

A2 = a bond; linear 1-4C alkylene, 2-5C alkenylene or 2-5C alkynylene optionally substituted by halogen, NO2, CN, SCN and/or B5D5; or CR6R7-W asterisk -CR8R9, CR10R11-W asterisk -CR12R13-CR14R15, CR16R17-CR18R19-W asterisk -CR20R21, CR22R23-CR24R25-W asterisk or CR26R27-W asterisk ;

R6-R27 = H, halogen, NO2, CN, SCN or B6D6

W asterisk = O, S or N(B7D7);

B1, B2, B3, B7 = bonds, C(Z asterisk ), C(Z asterisk )Z asterisk asterisk , C(Z asterisk )NH or C(Z asterisk )NR asterisk ;

Z asterisk , Z asterisk asterisk = O or S;

R asterisk = optionally substituted 1-6C alkyl, aryl, aryl(1-6C)alkyl, 3-9C cycloalkyl or (3-9C)cycloalkyl(1-6C)alkyl;

B4, B5, B6 = bonds, O, SOp, SOpO, OSOp, CO, OCO, COO, SCO, COS, SCS, CSS, OCOO, NR0, ONR0, NR0O, NR0CO, CONR0, OCONR0 or NR0COO;

p = 0-2;

R0 = H or optionally substituted 1-6C alkyl, aryl, aryl(1-6C)alkyl, 3-9C cycloalkyl

or (3-9C)cycloalkyl(1-6C)alkyl;

D1-D4, D6 = H or optionally substituted 1-6C alkyl, aryl, aryl(1-6C)alkyl, 3-9C cycloalkyl or (3-9C)cycloalkyl(1-6C)alkyl;

D5 = H or optionally substituted 1-6C alkyl, aryl, aryl(1-6C)alkyl, 3-9C cycloalkyl or (3-9C)cycloalkyl(1-6C)alkyl, or D5+D5 = 2-4C alkylene optionally substituted by 1-4C alkyl and/or 1-4C alkoxy;

X = halogen, OH, NH<sub>2</sub>, NO<sub>2</sub>, CHO, COOH, CN, SCN OR CONH<sub>2</sub>; optionally substituted 1-6C alkyl, 1-6C alkoxy, 1-6C alkylthio, mono- or di(1-6C alkyl)amino, 2-6C alkenyl, 2-6C alkynyl, 2-7C alkanoyl, 2-7C alkoxycarbonyl, mono- or di(1-6C alkyl)carbamoyl, 1-6C alkanoylamino or N-(1-6C alkanoyl)-N-(1-4C alkyl)amino; or optionally substituted 3-9C cycloalkyl, 3-9C cycloalkoxy, 3-9C cycloalkylamino, phenyl, phenoxy, phenylthio, benzoyl, heterocyclyl, heterocycllyloxy, heterocycllythio or heterocycllylamino; or adjacent X+X forms a 4- to 6-membered fused ring that optionally contains O, S and/or N atoms and is optionally substituted by halogen, 1-4C alkyl or oxo; n = 0-5;

heterocyclyl = a 3- to 7-membered ring containing 1-3 heteroatoms selected from N, O and S;

A1 and A2R2 contain a total of at least 6 C atoms or A1 and A2R2 contain a total of 5 C atoms and A1 = CH<sub>2</sub> or CH<sub>2</sub>CH<sub>2</sub> and R1 = optionally substituted 1-4C alkyl, 1-4C haloalkyl, 2-6C haloalkenyl or 3-9C cycloalkyl.

INDEPENDENT CLAIMS are also included for the following: (1) a process for preparing compounds (I); (2) intermediates of formula (III) and (V):

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MECHANISM OF ACTION - None given.

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CHOSEN-DRAWING: Dwg.0/0

DERWENT-CLASS: C02

CPI-CODES: C07-D13; C14-U01; C14-V01; C14-V03A; C14-V03B;